



**CONESTOGA-ROVERS
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March 25, 2009

Reference No. 030409

Mark Bilut, Esquire
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227 West Monroe Street
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Chicago, Illinois 60606

Dear Mr. Bilut:

Re: CRA Specific Comments on Ellsworth Draft RI Report for
2324 and 2400 Curtiss Street and CRA's Recommended Remedy for 2400 Curtiss Street

This letter provides Conestoga-Rovers & Associates' (CRA's) specific comments applicable to the Rexnord properties at 2324 and 2400 Curtiss Street to Weston's draft Remedial Investigation (RI) as well as Rexnord's proposed remedy for the 2400 Curtiss Street property. CRA's specific comments are in addition to the general comments applicable to all areas of the Ellsworth Industrial Park (EIP), which were previously provided to U.S. EPA and Weston through Bruce White.

SPECIFIC COMMENTS APPLICABLE TO 2324 AND 2400 CURTISS STREET

1. **No Completed Exposure Pathway:** As explained in the general comments previously provided to Weston and U.S. EPA, there is no completed exposure pathway on the 2324 and 2400 Curtiss Street properties and, therefore, no remediation is necessary. To the extent that there is the potential for exposure to PCE-impacted groundwater, this exposure pathway can be addressed through institutional controls, such as a deed restriction restricting the use of groundwater on the 2400 Curtiss Street property.
2. **Groundwater Flow Patterns in Bedrock:** Both the bedrock groundwater flow patterns drawn by Weston (in Figure 3-11b in the area of 2400 Curtiss) and the VOC plume allegedly migrating from the 2400 Curtiss Street property (in Figure 6-26) are incorrect. It is clear from multiple rounds of bedrock water levels measurements on the 2400 Curtiss Street property that groundwater flows in a southerly direction, not a westerly direction, as depicted by Weston in Figure 3-11b. In the draft RI report, Weston categorically states that bedrock groundwater flow is to the south and southeast. But, inexplicably, Weston then depicts a westerly bedrock groundwater flow on the 2400 Curtiss Street property. Similarly, based on multiple rounds of both CRA and Weston sampling, it is clear that no meaningful levels of contamination are migrating off of the 2400 Curtiss Street property. Yet, Weston's Figure 6-26 appears to show a plume migrating off of the 2400 Curtiss Street property.

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Weston's bedrock flow direction and plume figures (Figure 3.11b and Figure 6-26) are flawed because of three fundamental mistakes. *First*, the water level recorded by Weston for MW9D is inconsistent with the prior 5 water levels measurements from this well. In particular, during the 5 previous water level measurements, the water level in BD-9D was approximately a half-foot different from the level in BD-10D. However, Weston's February 2007 water level measurement from BD-9D shows that there is a 3 foot difference between BD-9D and BD-10D. This dramatic change in water level indicates a likely error in Weston's February 2007 measurement. An incorrect water level at BD-9D has a large impact on the contours drawn by Weston. *Second*, Weston failed to include the water levels from 7 bedrock monitoring wells (RMW-1D through RMW-7D) that are present on the 2400 Curtiss Street property. CRA has done multiple rounds of water level measurements on all of the bedrock wells on the 2400 Curtiss property and, those water levels measurements have consistently and repeatedly shown a southerly flow direction across the property in the bedrock. While Weston collected water levels measurements from bedrock wells RMW-1D, RMW-2D, RMW-3D, RMW-4D, RMW-5D, RMW-6D and RMW-7D (See Table 2-8 of the draft RI), it did not use these water levels in determining flow direction. Given the limited number of bedrock wells in the EIP, it is obviously important to include all available information on the bedrock groundwater. Weston's failure to include the water levels from these 7 wells may have resulted because Weston did not record top of casing elevations. While these top of casing elevations were previously provided to Weston, CRA, again, provides the top of casing elevations as follows: RMW-1D (691.43 ft AMSL), RMW-2D (688.63 ft AMSL), RMW-3D (688.49 ft AMSL), RMW-4D (690.76 ft AMSL), RMW-5D (690.54 ft AMSL), RMW-6D (689.46 ft AMSL) and RMW-7D (689.27 ft AMSL). *Third*, Weston's Figure 6-26 depicts a well noted as EIP-DG1DD. However, this well does not exist. There is no log for this well and no water level for this well in the draft RI. If Weston intended to refer to EIP-DG1D (but incorrectly wrote EIP-DG1DD), there is a more fundamental error with respect to EIP-DG1D. In particular, Weston has incorrectly assumed that well EIP-DG1D is a bedrock well when in fact it is an alluvial well. This is demonstrated by the attached well log. Moreover, the water level measured by Weston in February 2007 of 26.9 feet, cannot possibly be associated with a bedrock level. Therefore, Weston needs to redo Figures 3.11b and 6-26 to correct these crucial mistakes.

3. **Additional Miscellaneous Comments on draft RI report:** In the following table, CRA identifies a number of additional mistakes in the draft RI report that should be corrected.



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RI page 2-12	Weston's discussion of the history of the 2400 Curtiss Street property is incorrect. Rexnord has owned and operated this property since August 1988, not for "over 40-years" as incorrectly stated in the draft RI. Prior to August 1988, the property was owned and operated by a company called Rex Chainbelt, Inc., which changed its name to Rexnord, Inc., which later changed its name to RHI Holdings, Inc.
RI page 10-29, HHRA page 5-8, and Table 5-1	The HI on Appendix F, page 5-8 does not match Appendix F, Table 5-1 (1.3) or RI page 10-29 (<1.0) for 2400 Curtiss.
Figure 3-6j	Cross Section J-J' should include RMW-4D, which was installed into the bedrock and did not detect TCE or PCE downgradient of BD-2D. This is significant because the cross section does not show a ND well (RMW-4D) between BD-2D and SB3D.
Figure 3-10	Figure 3-10 improperly combines water levels from shallow wells in the overburden with the deeper wells in the overburden. For example, MW 278I (33-43') has a water level of 667.00 and OV1-I (48-53') has a water level of 655.26. The fact that these two wells are right next to each other demonstrates that there is a strong downward vertical gradient. As such, groundwater is moving down to bedrock not horizontally off-site.
Appendix A	GP-01 through GP-53 and CRA well logs at 2400 Curtiss do not appear to be included in Appendix A.
Appendix F, HHRA, Page 5-8	The Human Risk Assessment (HHRA) explains that the cancer risk at Study Area A is almost entirely due to direct contact to chloroform, PCE and TCE in groundwater. Chloroform is not an issue because of few detections at 2400 Curtiss. Also, drinking water pathway is incomplete (RI pg 10-34).
Appendix F, HHRA, page 5-8	<u>Risk Assessment Conclusions at 2400 Curtiss Street (PIN #0812113022)</u> : For Current/Future Commercial/Industrial Worker, the overall risk is 1×10^{-4} and is driven by a hypothetical scenario where groundwater is used as a potable water supply. In calculating this risk, U.S. EPA has relied on an incorrect assumption - that groundwater is used as a potable water supply. Contrary to U.S. EPA's assumption, the properties in the Ellsworth Industrial Park, including 2400 and



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	<p>2324 Curtiss Street, have municipal water supply. As such, employees do not drink or shower in water supplied by on site wells. As a result, there is no completed exposure pathway. Finally, even if U.S. EPA's assumption was correct, and there was an exposure pathway, the appropriate remedy for this risk would be a deed restriction which would prohibit future groundwater use for potable purposes.</p> <p>With respect to the 2400 Curtiss Street property, the HHRA needs to more specifically explain that any risk associated with the property is attributable to tetrachloroethene (PCE). On page 5-8 of the HHRA report, U.S. EPA states that the cancer risk associated with the 2400 Curtiss Street property results from direct contact to groundwater impacted by tetrachloroethene (PCE), trichloroethene (TCE) and chloroform. This statement is a gross oversimplification that should be clarified. Table A-9-3 of Attachment A documents that the groundwater risk is driven by tetrachloroethene (PCE) (8.9×10^{-5}), trichloroethene (TCE) (9.4×10^{-6}) and chloroform (1.9×10^{-6}). As such, PCE causes the nearly 90 percent of the risk. This should be stated clearly in the HHRA.</p> <p>In addition, U.S. EPA's inclusion of and reference to chloroform in this analysis is inappropriate. Chloroform is not a contaminant of concern and should not be part of the risk assessment. In the early round of sampling, U.S. EPA found chloroform in only one sample at BD2I of 0.56 $\mu\text{g}/\text{L}$ and found 12 non-detect values for chloroform at 2400 Curtiss Street. Because of the absence of any meaningful chloroform detections on the 2400 Curtiss Street property, U.S. EPA did not designate chloroform as a chemical of concern and did not test for chloroform in subsequent sampling rounds. Because chloroform is not a contaminant of concern, it should not cited as a contributor to risk in the HHRA report.</p> <p>U.S. EPA also has not followed fundamental principles of statistical analysis in its risk analysis, including treating each boring location as a separate data point. The HHRA overestimates risk by "double counting" data. For example,</p>



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	<p>two data points are used for TCE at wells OU1I and OV5I. Similarly, two data points are used for PCE at OU1I and BD2D. Other wells, such as RMW2D, only use one data point. Basic statistical analysis requires that U.S. EPA follow a consistent procedure where one data point should be assigned to each well.</p> <p>With respect to the Hazard Quotient (non-carcinogenic risk), the hazard index is 1.3 (incorrectly shown as less than 1 on page 5-8). This risk is driven by the same hypothetical scenario of groundwater ingestion. As mentioned above, this index is based on the incorrect assumption that groundwater is used for potable water supply, which is not the case. There is no completed exposure pathway. Moreover, as noted above, U.S. EPA has double counted certain TCE detections by including more than one detect from the same well. As a result, the hazardous index should be 0 because there is no exposure pathway. Even if there was an exposure pathway, the hazard index calculated by U.S. EPA is over estimated risk for reasons stated above.</p> <p>Further the Hazard Index for the TCE component of the risk was developed using toxicological dose-response values that are based on the U.S. EPA's "Synthesis and Characterization"¹ for TCE, which is a controversial document and which has not been approved by the U.S. EPA's Science Advisory Board (SAB) or EPA as a whole. The values used are not listed in the EPA's on-line IRIS database. The EPA's SAB believes this document should be revised and its use in the development of risks at this site brings the results into question.</p> <p>Finally, in addition to other incorrect assumptions noted above, U.S. EPA's risk calculation is based on the assumption that people are bathing for 35 minutes per shower. Assuming that there is an exposure pathway (which there is not), U.S. EPA's</p>

¹ Trichloroethylene Health Risk Assessment: Synthesis and Characterization (External Review Draft) . USEPA EPA/600/P-01/002A. 01 AUGUST 2001. U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington, DC. This NCEA report was adopted by EPA Region IX and was used in the risk assessment.



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	<p>assumption is not realistic in a residential setting, let alone in an industrial setting.</p> <p>U.S. EPA's conclusions with respect to construction worker risk is based on flawed assumptions similar to the flaws discussed above. With respect to construction worker exposure, the HHRA report finds that the overall carcinogenic risk is 3.7×10^{-6} (Table 5-4) and is entirely associated with dermal contact with PCE in groundwater (Table A-9-4). This is within the acceptable risk range of 1×10^{-6} to 1×10^{-4}. Even if this was an unacceptable level of risk, U.S. EPA's calculation is based on a fundamentally flawed assumption that construction workers are exposed to groundwater 18 to 100 feet below ground. In particular, a review of the data shows that the UCL used for the construction worker exposure was taken from groundwater samples collected from depths of 18 to 100 feet below ground. Construction workers will not be exposed to groundwater from these depths. Therefore, there is no exposure pathway, and the actual risk is 0. Finally, even if there was a construction worker exposure pathway to groundwater at these depths, this risk should be addressed by a deed restriction.</p>
Appendix F, HHRA page 5-9	<p><u><i>The Risk Assessment's Conclusions on Risk at 2324 Curtiss Street (PIN #0812417003):</i></u> U.S. EPA's assumptions and conclusions with respect to exposure pathways and risks at 2324 Curtiss Street are flawed. For the current/future commercial and industrial worker, the HHRA calculates an overall carcinogenic risk of 2.1×10^{-5}. Like the 2400 Curtiss Street property, this risk is principally associated with PCE (see Table A-9-3). Once again, however, this risk is within the acceptable risk range of 1×10^{-6} to 1×10^{-4}. Even if this was an unacceptable level of risk, U.S. EPA's risk calculation is again based on and driven by the incorrect assumption that groundwater is used for potable use. Because this assumption is wrong, and there is no exposure pathway, the real risk is 0. But, even there was an exposure pathway, the appropriate remedy is a deed restriction.</p>
Appendix F, HHRA Table 5-1	<p>The HI for Current/Future Commercial/Industrial Work at Study Areas are driven by ingestion and dermal exposure to groundwater supply, but pathway is incomplete (RI Pg 10-34). There should be no risk because the pathway is incomplete.</p>



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PROPOSED REMEDY FOR 2400 CURTISS STREET

Based on the draft RI, no further action is necessary for the 2324 Curtiss Street property. As shown by Figure 6-5e of the RI report, only two locations on the 2400 Curtiss Street property exceeded the Site Specific Level (SSL). Those locations are at GP-8 and SS-049. Moreover, the only constituent found on the property above the SSL was PCE. The elevated PCE levels were in a sandy zone at a depth of 16 to 28 feet below ground. Given that there is no completed exposure pathway to the PCE found at depth, no remediation is warranted. However, if a remedy is required, CRA recommends that soil vapor extraction (SVE) be used. This remedy can be implemented with a single SVE well, a small 5 H.P. blower. No off gas treatment would be required and the system would like only need to operate for a year.

Please call if you have any questions.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Ron Frehner, P.E.

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